Appendix 7

SWPPP “Legacy at Sierra Vista”

INTEGRATED | ENVIRONMENTAL
CONSTRUCTION ENGINEERING
Design | Comply | Restore

Double M. Properties
Legacy at Sierra Vista

Los Lunas, Valencia County, New Mexico

National Pollution Discharge Elimination System

COMPLIANCE DOCUMENTATION

Stormwater Pollution Prevention Plan
& Temporary Erosion Control Plan

June 17, 2019

NPDES PERMIT: NMR1002AG

Estimated Project Dates:

Project Start Date: August 19, 2019
Project Completion Date: ~~July 3, 2020~~ December 31, 2021

www.e2rc.com ■ 505-867-4040 ■ 439 South Hill Road, Bernalillo, NM 87004 ■ *Fax:* 505-867-4044

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1 INTRODUCTION

In compliance with the provisions of the Clean Water Act ("CWA"), the National Pollutant Discharge Elimination System ("NPDES") General Permit authorizes Operators of construction activities to discharge pollutants in accordance with effluent limitations and conditions set forth in the NPDES Construction General Permit ("CGP"). Operators with permit coverage must perform and meet its requirements from the "commencement of earth-disturbing activities" until "final stabilization".

This Storm Water Pollution Prevention Plan ("SWPPP") provides an engineered design for the operations of **Legacy at Sierra Vista**. The United States Environmental Protection Agency ("EPA") requires a SWPPP for Phase II of the current NPDES General Permit for storm water discharges. It is based in good engineering practices as required by the General Permit and defined by the New Mexico Board of Engineering. The designer's professional engineering (PE) seal and recognition as a Certified Storm Water Quality Professional (CPSWQ) support this plan.

This SWPPP recommends appropriate best management practices ("BMPs") and control measures to improve the quality of surface waters by reducing and controlling the amount of pollutants contained in the storm water runoff. The document provides for periodic review and updating of the plan ensuring it complies with the 'living document intent' of the EPA requirements.

This SWPPP documentation intends to:

- Identify potential sources of storm water and non-storm water contamination to the storm water drainage system.
- Design appropriate best management practices to prevent storm water contamination.
- Recommend management practices to reduce pollutants in contaminated storm water prior to discharge by:
  - *Describing the Structural Practices used during the Construction Phases* (e.g., sediment control barriers, sediment traps, and temporary or permanent sediment basins, etc.),
  - *Describing Other Controls* (e.g., waste disposal, procedures to minimize off-site vehicle tracking, dust control, etc.),
- Determine the action(s) needed to either bring non-storm water discharges under compliance or to remove the discharges from the storm drainage system using:
  - *Storm Water Management Controls used for Stabilization* (e.g. detention or retention structures, vegetated swales, etc.) to be installed during the construction process to reduce pollutants in storm water discharging from the site after construction has been completed,
  - *Description of Interim and Permanent Stabilization Practices* (e.g. seeding, mulching, etc.) dependent on the phase of the project when the practice is employed,
- Prescribe an implementation schedule to ensure the storm water management procedures and controls designed for the SWPPP are carried out and evaluated on a regular basis.

2 RESPONSIBLE PARTIES

2.1 OPERATORS

OPERATOR:

Double M. Properties
4400 Alameda Blvd. NE Suite E
Albuquerque, New Mexico 87113
Office: 505-345-2694
Contact: Bob Prewitt, Vice President

24 – Hour Emergency Contact:

Double M. Properties
Bob Prewitt
505-345-2694

2.2 STORMWATER POLLUTION PREVENTION TEAM

The storm water pollution prevention team is responsible for developing, implementing, maintaining and revising this SWPPP. The members of the team are familiar with the management and operations of Legacy at Sierra Vista.

Double M. Properties oversees all aspects of this SWPPP development and implementation and requested the origination of this SWPPP. E2RC, LLC is delegated and authorized by Double M. Properties to originate and design the SWPPP for NPDES Compliance. Table 2.2.a identifies the responsible parties. Table 2.2.b provides detailed responsibilities and their associated parties.

Table 2.2.a

NAME & TITLE	POSITION	RESPONSIBILITY
Double M. Properties 505-345-2694	Vice President	Operator
E2RC, LLC 505-867-4040	SWPPP Engineer	SWPPP Development Team
E2RC, LLC 505-867-4040	NPDES Inspector	Site Inspections and NPDES Compliance Team
E2RC, LLC 505-867-4040	Project Manager	Implementation Team
Double M. Properties 505-345-2694	Vice President	Maintenance and Corrections Team
E2RC, LLC 505-867-4040	Project Manager	Maintenance and Corrections Team

The 2017 CGP outlines the eligibility conditions to be considered an "Operator" in Section 1.1.1. Each party which meets one of the conditions is required to attain permit coverage – a Notice of Intent ("NOI") – and abide by the CGP requirements. The eligibility conditions are:

a) The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
b) The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

In the event there are multiple Operators, each is equally responsible for ensuring compliance with the regulating permit. The Operators may assign specific responsibilities or compliance activities to specific Operators. However, each is responsible for issues of non-compliance should any occur, regardless of which Operator allowed the non-compliant activity.

Table 2.2.b

SWPPP Responsibilities	Double M. Properties	E2RC, LLC
1. Provide copies and access to approved construction documents for SWPPP preparation.	X	
2. Provide updated or revised construction documents to appropriate parties.	X	
3. Prepare SWPPP in compliance with EPA 2017 CGP.		X
4. Prepare and submit Notice of Intent ("NOI").		X
5. Certify NOI.	X	
6. Notify MS4 operator that construction will be taking place in their jurisdiction.	X	
7. Provide access/entry to site property.	X	
8. Install erosion and sediment controls.		X
9. Complete BMP Installation logs.	X	
10. Maintain Erosion and Sediment BMPs.	X	
11. Complete temporary stabilization in disturbed areas per applicable deadlines.	X	
12. Remove erosion and sediment controls following permanent stabilization.	X	
13. Complete final stabilization.	X	X
14. Perform daily housekeeping – trash and contaminated soil removal, anchoring sanilets, chemical/material storage, etc.	X	
15. Street sweeping and sediment removal.	X	
16. Daily visual inspections during course of work.	X	
17. Perform SWPPP inspections and complete inspection reports.		X
18. Notify inspecting party of rain events exceeding 0.25".	X	
19. Update SWPPP and site map as changes occur.	X	
20. Complete corrective action reports.	X	
21. Complete SWPPP Amendment log.	X	
22. Conduct onsite SWPPP training and complete training logs.	X	
23. Prepare and submit Notice of Termination ("NOT").		X
24. Certify NOT.	X	

3 SITE INFORMATION, ASSESSMENT, AND PLANNING

3.1 PROJECT/SITE INFORMATION

Project Name: Legacy at Sierra Vista
Project Location: 0.43 Miles West of Jubilee Blvd. on NM- 6
City: Los Lunas
County: Valencia
State: New Mexico
ZIP Code: 87031

GPS Location: 34° 49' 12.87" N Latitude 106° 48' 1.09" W Longitude

Method for determining latitude/longitude: Google Earth

Horizontal Reference Datum: ☐ NAD 27 **X** NAD 83 or WGS 84 ☐ Unknown

Anticipated Hours of Operation: Monday - Friday, 7:00 AM to Close; excluding federal holidays

Is the project/site located on Indian country lands, or located on a property of religious or cultural significance to an Indian tribe?

No

If yes, provide the name of the Indian tribe associated with the area of Indian country (including the name of Indian reservation if applicable), or if not in Indian country, provide the name of the Indian tribe associated with the property:

Not Applicable

If you are conducting earth-disturbing activities in response to a public emergency, document the cause of the public emergency (e.g., natural disaster, extreme flooding conditions), information substantiating its occurrence (e.g., state disaster declaration), and a description of the construction necessary to reestablish effective public services:

Not Applicable

Are you applying for permit coverage as a "federal operator" as defined in Appendix A of the 2017 CGP?

No

3.2 DESCRIPTION/NATURE OF CONSTRUCTION ACTIVITY

Legacy at Sierra Vista will consist of the development of access, infrastructure, utilities, permanent drainage, and permanent stabilization for the construction of infrastructure and utility development for a new subdivision.

Soil Disturbing Activities will include but are not necessarily limited to: Clearing and grubbing, rough grading, installation of perimeter controls as well as other erosion and sediment management control measures, construction of infrastructure, installation of utilities, permanent drainage, and construction of pavement sections for the construction of infrastructure and utility development for a new subdivision.

3.3 PROJECT AREA AND AREA OF SOIL DISTURBANCE

Legacy at Sierra Vista

The project site area is approximately ~~57.00~~ 180 gross acres with an approximate disturbed area of ~~57.00~~ 180 acres for construction. The maximum area of disturbance at any one time will consist of ~~57.00~~ 180 acres. The project will have disturbance in each phase and will be constructed in one phase(s).

Most of the major earth moving and soil disturbing activities are expected to occur during the initial portion of each phase of construction activities. The activities will continue throughout the selected areas of construction with minor amounts of earth moving and soil disturbance occurring during later phasing sequences. The appropriate control measures, practices and implementation schedules have been considered and will be implemented to prevent pollutants and sediments from discharging from the disturbed area into identified drainage reaches and channels during the related construction activities.

For this project, the removal of vegetation (area of soil disturbance) is that area which will be designated for grading, excavation and permanent stabilization.

3.4 DESIGN REQUIREMENTS

Stormwater flow characteristics, design requirements and the effects of each are engineering activities managed by the registration and licensing requirements developed by the controlling state agency. Agencies and reviewers should be alert to the specific requirements of the controlling agency for such work.

The temporary stormwater controls and practices are designed around the two-year, 24-hour event. The individual storm event duration is 30 minutes. The data is based on the latitude and longitude of the site and it is derived from NOAA PFDS reporting. The site-specific data supports the RUSLE

calculation protocol and output generated from the latest version of NRCS RUSLE programming. The project design hydraulic conditions are significantly greater, likely, from the design hydraulics used for temporary stormwater control development.

The nature of the surface flow, its direction and the factors affecting the flow rates is captured in the RUSLE analysis for the site. Drainage features and flow management devices are included in the design and noted when appropriate.

The soil particle size, erodibility and historical vegetative data are included in the NRCS Soil Report for the project location. This information is derived from data gathered by the NRCS to support the tools utilized to manage lands of the US.

The information specific to the site is found in the 'RUSLE, Engineering, Storm & Soil Data' Section of the SWP3 Document.

3.5 SEQUENCE OF SOIL DISTURBING ACTIVITIES

CONSTRUCTION ACTIVITY	DATE COMPLETED
Begin Project: August 19, 2019 (Approximate)	See Operator(s) Schedule
Install temporary BMPs: Sediment transport barriers, entrances, washouts, notification boards, etc.	
Site Preparation (Including Demolition if applicable)	
Clearing and Grubbing	
Rough Grading	
Infrastructure	
Concrete (As Required and If Applicable)	
Final Grading	
Temporary Stabilization: ***MUST COMMENCE IMMEDIATELY WHEN IT IS KNOWN WORK WILL CEASE FOR 14 CALENDAR DAYS OR MORE***	
Paving (If Applicable)	
Site Clean - Up	
Landscaping, Planting, Seeding or Final Stabilization	
End Project: ~~July 3, 2020~~ 12/31/2021 (Approximate) at 4/3/2020	

The 'Date Completed' schedule in the nearby table will constitute the initiation date of the succeeding activity. This plan shall be amended by E2RC, LLC as directed by the site operator or pollution prevention team should any major changes of sequence requiring additional BMP'S or the deletion or modification of designed BMP'S. The Operator(s) will ensure the appropriate practices and measures are taken to keep pollutants and sediment onsite by following the recommended BMP'S and installation practices described within this SWPPP.

Major soils disturbing activities will likely occur at the same time however; construction is a fluid process. Some activities may be performed out of sequence and others presently unidentified may occur depending on site-specific needs. The Operator and Contractors will utilize additional source area controls and appropriate Best Management Practices on a temporary, as required basis, when it's necessary to maintain compliance with the global intent of the SWPPP (e.g., (compost) mulch socks used around temporary spoil piles at excavation locations, temporary earth berms for runoff management and sediment capture in areas where the time of disturbance is limited).

3.6 POLLUTANTS FROM SUPPORT ACTIVITIES

SUPPORT ACTIVITY	LOCATION	CONTACT FOR ACTIVITY
Concrete Plant	Offsite	Double M. Properties
Asphalt Plant	Offsite	Double M. Properties
Equipment Staging Area	Onsite	Double M. Properties
Parking Area	Onsite	Double M. Properties
Material Storage Area	Onsite	Double M. Properties
Excavated Material Disposal Area	Offsite	Double M. Properties
Borrow Area	Offsite	Double M. Properties

3.7 DISCHARGE INFORMATION

Does your project/site discharge stormwater into a Municipal Separate Storm Sewer System (MS4)?

No

Are there any surface waters that are located within 50 feet of your construction disturbances?

Yes

Are any of the surface waters listed Tier 2, 2.5 or 3 by **the regulating authority**?

No

3.8 RECEIVING WATERS

The name(s) of the first surface water that receives stormwater directly from your site and/or from the MS4 (note: multiple rows are provided where the site has more than one point of discharge that flows to different surface waters). An MS4 is not considered a receiving water. The name of the receiving water to which the MS4 discharges is listed in the second identified water if the project discharges to an MS4 before any other water.

1. **Dry Ephemeral Stream river is 0.00 miles from the site. This is a discharge point.**
2. **Unnamed Stream river is 0.30 miles from the site. This is not an additional discharge point.**

It is important for the reviewer to note if the waters listed are discharge points. **If none of the waters are discharge points, then there isn't discharge offsite (waters are kept onsite) and the listing is provided to demonstrate the Operator(s) are knowledgeable about the surface waters in proximity of the project. Section 3.8 details the information regarding the surface waters shown in the EPA Watershed Locator Tool.**

3.9 WATERSHEDS, RECEIVING WATER IMPAIRMENT STATUS AND TIER DESIGNATION

13020203; Rio Grande - Albuquerque Watershed

List the Impaired Waters / Total Maximum Daily Loads ("TMDL") for each surface water listed in the Receiving Waters Section:

	Is this surface water listed as "impaired"?	What pollutant(s) cause the impairment?	Has a TMDL been completed?	Title of the TMDL document	Pollutant(s) for which there is a TMDL
1.	No	N/A	No	N/A	N/A
2.	No	N/A	No	N/A	N/A

What method(s) was used to determine if the project site discharges to an impaired water?

EPA WATERS GeoViewer, SWQB Mapper and U.S. Fish & Wildlife National Wetlands Inventory

3.9.1 Tier 2, 2.5, or 3 Waters Designation for Listed Receiving Waters

	Is this surface water designated as a Tier 2, Tier 2.5, or Tier 3 water?	If you answered yes, specify which Tier (2, 2.5, or 3) the surface water is designated as?
1.	No	N/A
2.	No	N/A

3.10 ALLOWABLE NON-STORMWATER DISCHARGES

The following are authorized non-stormwater discharges, provided that this component of the discharge is in compliance with Part 1.2.2, Types of Discharges Authorized, of the 2017 CGP.

Non-Stormwater Discharge	Expected on Project	Control Measure
Discharges from Firefighting Activities	No	Silt Fence Ponds Drill Seeding with Hydromulch
Fire Hydrant Flushing	Yes	Silt Fence Ponds

		Drill Seeding with Hydromulch
Waters without Detergents to Wash Vehicles	No	Silt Fence Ponds Drill Seeding with Hydromulch
Water used to control dust	Yes	Silt Fence Ponds Drill Seeding with Hydromulch
Potable water including uncontaminated water line flushing	Yes	Silt Fence Ponds Drill Seeding with Hydromulch
Pavement wash waters without detergents (e.g. waters used in sweeping activities) providing spills or leaks of toxic or hazardous materials have not occurred or removed if an occurrence has stopped. *	No	Silt Fence Ponds Drill Seeding with Hydromulch
Uncontaminated air conditioning or compressor condensate.	No	Silt Fence Ponds Drill Seeding with Hydromulch
Uncontaminated, non-turbid discharges or ground water or spring water.	No	Silt Fence Ponds Drill Seeding with Hydromulch
Re-vegetation or landscape irrigation	Potentially	Silt Fence Ponds Drill Seeding with Hydromulch
Foundation and footing drains ****Applies only if expected on project**	No	Silt Fence Ponds Drill Seeding with Hydromulch
Construction Dewatering	No	Silt Fence Ponds Drill Seeding with Hydromulch Pump Water to Location Upstream on Project Site
External building wash-down used without soaps, solvents or detergents and external surfaces do not contain hazardous substances (e.g. paint, chalk).	No	Silt Fence Ponds Drill Seeding with Hydromulch

*The CGP prohibits the Permittee from directing pavement wash waters directly into any water of the U.S., drain inlet, or stormwater conveyance unless that conveyance is connected to a sediment basin, trap, or similarly effective control.

Foundation and footing drains where a filtering media is attached to the drain outlet or used in a temporary storm water quality unit to capture process materials, solvents, detergents or similar materials. **The media must be inspected during each inspection cycle to ensure it is able to perform adequate absorption through the succeeding inspection. The media must be replaced if it is unable to perform adequate absorption through the next inspection.

Non-Stormwater Discharges (not allowed under this permit) will not occur. However; if it becomes necessary to discharge a substance not covered by this permit, a separate NPDES permit will be obtained.

3.10.1 LIMITATION ON NON-STORMWATER DISCHARGE(S)

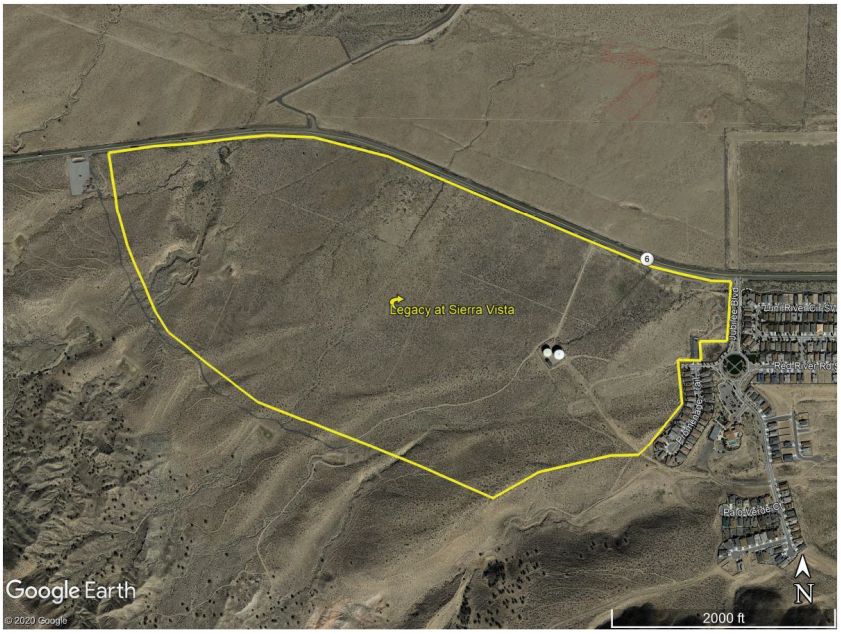
The Operator(s) and subcontractors acknowledge by their signature that this plan has coverage limitations on Non-Stormwater Discharges. Limitations include:

1. Post-Construction Discharges
    a. Discharges originating from the site after final stabilization has been acknowledged and documented. An example of post-construction discharge is roof drainage channeled to a stabilized pond.
2. Discharges covered by an individual permit or an alternative permit. An example of this type of discharge is imported deposition from a separate project under construction that is upstream from the site covered by this plan.

Discharges determined by EPA to exceed an applicable water quality standard providing EPA has made its designation prior to the authorization of the 2017 CGP. If EPA identifies discharges that exceed an applicable water quality standard coverage may be extended under the 2017 CGP if appropriate controls, implementation procedures and supporting mechanisms have been developed to comply with the new water quality standard.

3.11 SITE MAP(s)

3.11.1 PROJECT LOCATION



3.11.2 SEDIMENT AND EROSION CONTROL MANAGEMENT PLAN

The sediment and erosion control management plan is located at the front of the binder. The plan is a living document. The project Operator(s) is responsible for regularly updating the map to reflect the project's current state.

3.11.3 PLANS INCORPORATED BY REFERENCE

The following plan(s) or document(s) is/are incorporated into the SWPPP or by reference:

- General Construction Drawings
- Site Sediment and Erosion Management Drawings
    - Located at the front of this binder
- Temporary Erosion and Sediment Control Measures and Drawings reviewed/developed by E2RC, LLC.
- Specifications per E2RC, LLC including all references:
    - Code of Federal Regulations (CFR)
        - I.e. Occupational Safety and Health Administration (OSHA) Emergency Action Plan (29 CFR 1910) Spill Controls and Countermeasures Requirement (40 CFR 112) etc.
    - New Mexico Administrative Code (NMAC)
    - American Association of Highway Transportation Officials (AASHTO)
    - American Society of Testing Materials (ASTM)

The engineered and construction drawing prepared by E2RC, LLC and reviewed by E2RC, LLC, have provisions for flow channelization, detention, and general drainage layout to bring the storm water net yields to acceptable levels. Please refer to the drawing(s) for further information. The drawing(s) are incorporated by reference and are the permanent construction plans.

4 ADDITIONAL FEDERAL REQUIREMENTS

4.1 ENDANGERED OR THREATENED SPECIES

The research and documentation for this SWPPP and permit application support selecting criterion C. The SWPPP designer utilized the ESA eligibility procedures outlined in Appendix D. Formal contact, if required by a determination of the USFWS Critical Habitat Mapping Tool – http://criticalhabitat.fws.gov/crithab/, was made with:

Ecological Services Field Office
US Fish and Wildlife
2105 Osuna NE
Albuquerque, NM 87113

For reference purposes, the eligibility criteria listed in Appendix D are:

- **Criterion A:** No federally-listed threatened or endangered species or their designated critical habitat(s) are likely to occur in your site's "action area" as defined in Appendix A of this permit.

- **Criterion B:** The construction site's discharges and discharge-related activities were already addressed in another operator's valid certification of eligibility for your action area under eligibility Criterion A, C, D, E, or F and there is no reason to believe that federally-listed species or federally-designated critical habitat not considered in the prior certification may be present or located in the "action area". To certify your eligibility under this Criterion, there must be no lapse of NPDES permit coverage in the other operator's certification. By certifying eligibility under this Criterion, you agree to comply with any effluent limitations or conditions upon which the other operator's certification was based. You must include in your NOI the tracking number from the other operator's notification of authorization under this permit. If your certification is based on another operator's certification under Criterion C, you must provide EPA with the relevant supporting information required of existing dischargers in Criterion C in your NOI form.

- **Criterion C:** Federally-listed threatened or endangered species or their designated critical habitat(s) are likely to occur in or near your site's "action area," and your site's discharges and discharge-related activities are not likely to adversely affect listed threatened or endangered species or critical habitat. This determination may include consideration of any stormwater controls and/or management practices you will adopt to ensure that your discharges and

discharge-related activities are not likely to adversely affect listed species and critical habitat. To make this certification, you must include the following in your NOI: 1) any federally listed species and/or designated habitat located in your "action area"; and 2) the distance between your site and the listed species or designated critical habitat (in miles). You must also include a copy of your site map with your NOI.

- **Criterion D:** Coordination between you and the Services has been concluded. The coordination must have addressed the effects of your site's discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat, and must have resulted in a written concurrence from the relevant Service(s) that your site's discharges and discharge-related activities are not likely to adversely affect listed species or critical habitat. You must include copies of the correspondence between yourself and the Services in your SWPPP and your NOI.

- **Criterion E:** Consultation between a Federal Agency and the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service under section 7 of the ESA has been concluded. The consultation must have addressed the effects of the construction site's discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat. The result of this consultation must be either:

    1. *a biological opinion that concludes that the action in question (considering the effects of your site's discharges and discharge-related activities) is not likely to jeopardize the continued existence of listed species, nor the destruction or adverse modification of critical habitat; or*

    2. *Written concurrence from the applicable Service(s) with a finding that the site's discharges and discharge-related activities are not likely to adversely affect federally listed species or federally designated habitat.*

- **Criterion F:** Your construction activities are authorized through the issuance of a permit under section 10 of the ESA, and this authorization addresses the effects of the site's discharges and discharge-related activities on federally listed species and federally designated critical habitat. You must include copies of the correspondence between yourself and the Services in your SWPPP and your NOI.

4.1.1 Supporting Documentation

The *Endangered Species* section of the SWPPP includes the supporting documentation for criterion C. The following documentation supports the selection:

- ✓ IPaC online mapping tool and species report (https://ecos.fws.gov/ipac/)

- ✓ ECOS Online Mapping Tool (https://ecos.fws.gov/ecp/report/table/critical-habitat.html)

The basis statement requirements for the selected criterion is:

- **For criterion C**, the ESA – listed species and/or designated habitat located in the project's 'action area' is the Rio Grande Silvery Minnow, Yellow-Billed Cuckoo and Southwestern Willow Flycatcher. The designated habitat is approximately 4.43 miles from the project.

  Basis Statement: The U.S. FWS Species Report and IPaC Critical Habitat Mapping portal indicate there are no critical habitats or endangered, threatened or candidate species in the action are. The nearest critical habitat is 4.43 miles east of the project. The Yellow - Billed Cuckoo and Southwestern Willow Flycatcher habitats consists of densely wooded riparian areas near a water source. As aviary species, the bird's movements is not limited by borders or other impediments. However, the action area in question does not provide the preferred habitat or food requirements to support the species the habitat is near the action area.

4.2 PRESERVATION OF HISTORICAL SITES

It is important for the document user to recall the intent of the NPDES program is to prevent degradation of the Waters of the US. Operators are expected to maintain and improve, if possible, the quality of the surface Waters of the US. Additionally, it is important to ensure locations designated as historically valuable are protected and preserved during the construction process.

Appendix E of the Permit lists specific requirements to determine the effect of in ground storm water controls on a historic property. This is a 'screening process' intended to identify if 'ground disturbing storm water controls' will be used. If the site will not contain any ground disturbing stormwater controls, then the reader is directed review the listing of sites in Valencia County placed in the Historic Register provided in the Endangered Species and Cultural Properties section.

The screening process stops at the successful completion of the appropriate step in the procedure.

STEP	CRITERIA	RESPONSE
1.	Are you installing any stormwater controls described in Appendix E that require subsurface earth disturbances?	Yes
2.	Have prior surveys or evaluations conducted on the site already determined historic properties do not exist, or that prior disturbances have precluded the existence of historic properties?	No
3.	Have you determined that your installation of subsurface earth-disturbing stormwater controls will have no effect on historic properties?	Yes

4.	Did the SHPO, THPO, or other tribal representative (whichever applies) respond to you within the 15 calendar days to indicate whether the subsurface earth disturbances caused by the installation of stormwater controls affect historic properties?	Yes
4a	Describe the nature of the SHPO response:	
	Written indicated that no historic properties will be affected by the installation of stormwater controls.	Yes
	Written indicated that adverse effect to historic properties from the installation of stormwater controls can be mitigated by agreed upon actions.	NA
	No agreement has been reached regarding measures to mitigate affects to historic properties from the installation of stormwater controls.	NA

Stormwater Control	Installed at Project Site
Dike	No
Berm	No
Catch Basin	No
Pond	Yes
Ditches	No
Trenches	Yes
Stormwater Conveyance Channel (e.g., channels, swale)	No
Culvert	No
Other Type of Ground-Disturbing Stormwater Control:	NA

E2RC utilized the National Register of Historic Places supported by the National Park Service. E2RC submitted a formal inquiry to the New Mexico State Historic Preservation Office as a conservative measure although not required by the procedure outlined in Appendix E. The supporting documentation and responses are included in the *Cultural and Historic Properties* section of the SWPPP.

The nature of the SHPO response:

The Department of Cultural Affairs and Historic Preservation Division of New Mexico reviewed the State Register of Historic Places and their archaeological records database. No known cultural or historic properties are on either the State or National Register. However, the project area has not been subject to a cultural resource survey. They also noted there is a known structural prehistoric archaeological site located within .10 miles of the project area. A recommendation has been made for an archaeological

survey to be completed to ensure that unidentified archaeological sites and unmarked human burials are not adversely affected.

4.3 SAFE DRINKING WATER ACT REQUIREMENTS

The Safe Drinking Water Act has requirements for **controlling injections of storm water into the ground and groundwater**. The rule requires identification of the controls and documented contact between the Operator(s) and the EPA/Responsible State Agency to ensure installation compliance occurs. The process requires identification and selection of the controls that are intended to be used and then contact with the appropriate agency. If none of the controls in the list are designed for use in the project then nothing further is required for compliance.

- **The state contact for Underground Injection Controls is found at: *http://water.epa.gov/type/groundwater/uic/whereyoulive.cfm*.**

None of the following are designed into the project for storm water management.

No - Infiltration trenches (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system)

No - Commercially manufactured pre-cast or pre-built proprietary subsurface detention vaults, chambers, or other devices designed to capture and infiltrate stormwater flow

No - Drywells, seepage pits, or improved sinkholes (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system)

A copy of the contact between the appropriate agency and the applicants under this permit is included in the Engineering Section of this Plan if any of the controls are employed on the project.

5 EROSION AND SEDIMENT CONTROLS

5.1 NATURAL BUFFERS OR EQUIVALENT SEDIMENT CONTROLS

The EPA considers a naturally vegetated 50-foot distance between the site's construction activities and the surface waters as sufficient to filter the potential sediment from the discharge point. The goal for the Operator(s) is to have the sediment reduction delivered by the 50-foot natural barrier or design an equivalent barrier with controls to deliver the same sediment reduction. Operators are reminded the regulation requires the buffer or the establishment of controls supported by calculations to create an equivalent buffer for *any section* of the project that is closer than 50 feet to the surface water.

It is possible the project may have exceptions to the regulation. It is a requirement to provide documentation supporting the exception if an exception is noted.

5.2 BUFFER COMPLIANCE & COMPLIANCE ALTERNATIVES

Are there any surface waters within 50 feet of the project's earth disturbances?

Yes

The compliance alternative for the site is:

1. **Not chosen:** Surface waters ***are not*** within 50 feet of the project's earth disturbances. Additional engineering beyond the RUSLE calculations are not required. The Site Map indicates the boundary line.

2. **Not Chosen:** Surface waters are nearby. The Operator(s) will provide and maintain a 50-foot undisturbed natural buffer.

3. **Not Chosen:** Surface waters can be found within 50 feet of earth disturbing activities. The Operator will provide and maintain an undisturbed natural buffer that is less than 50 feet. It is supplemented by additional erosion and sediment controls, which in combination achieves the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

4. **X:** Surface waters can be found within 50 feet of earth disturbing activities. It is infeasible to provide and maintain an undisturbed natural buffer of any size. The Operator will implement erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

5.3 BUFFER EXCEPTIONS

The EPA acknowledges exceptions to the buffer requirement may exist. Specific information is necessary to support the selection of an exception to the requirement.

The site **will not** qualify for one of the exceptions in Appendix G.2.2 of the CGP. An affirmative selection is supported by a condition chosen in the following list:

1. **Not chosen:** Discharge of the site's stormwater to the surface water that is located 50 feet from my construction disturbances ***does not occur***. Additional engineering beyond the RUSLE calculations are not required.

2. **Not chosen:** A natural buffer does not exist on the site due to preexisting development disturbances. The development disturbances occurred prior to the initiation of planning for this project.

3. **Not chosen:** For a "linear project", (e.g., a road, bridge or other project defined by a long, narrow area), site constraints (e.g., limited right-of-way) make it infeasible for me to meet any of the compliance alternatives provided in CGP Part 2.1.2.1.a.

Does not apply.

4. **Not chosen**: The project qualifies as "small residential lot" construction (defined in the 2017 CGP, Appendix G).

5. **Not chosen**: Buffer disturbances are authorized under a CWA Section 404 permit.

6. **Not chosen**: Buffer disturbances will occur for the construction of a water-dependent structure or water access area (e.g., pier, boat ramp, and trail). The buffer disturbances in the buffer zone are not applicable. No further documentation is required if this option is selected.

5.4 DESCRIPTION OF SITE CONTROLS AND BMP SELECTIONS

The Operator(s) will use best management practices designed to prevent the 57.00 acres of disturbed area from contaminating stormwater to the maximum extent possible. The site will utilize and implement stormwater management controls, or BMPs, to reduce the amount of pollutants in stormwater discharged from Legacy at Sierra Vista as defined in this SWPPP and the Erosion and Sediment Control Drawing location at the front of this plan.

CONTROL or PRACTICE	CONTRACTOR	IMPLEMENTATION SCHEDULE (ESTIMATED)
NPDES NOTIFICATION BOARD	E2RC, LLC	SEE SCHEDULE NOTE*
CONSTRUCTION ENTRANCE(S)	E2RC, LLC	SEE SCHEDULE NOTE*
CONCRETE WASHOUT (If concrete is used on project)	Double M. Properties	SEE SCHEDULE NOTE*
SANILET PROTECTION	Double M. Properties	SEE SCHEDULE NOTE*
SILT FENCE	E2RC, LLC	SEE SCHEDULE NOTE*
PONDS	Double M. Properties	SEE SCHEDULE NOTE*
DRILL SEEDING WITH HYDROMULCH	E2RC, LLC	SEE SCHEDULE NOTE*
		SEE SCHEDULE NOTE*

***SEE THE CONTRACTOR'S SCHEDULE FOR EXACT ACTIVITY DATES. ALTERNATIVELY, THE INSTALLATION DATES FOR BMPs ARE AVAILABLE IN THE SWPPP SITE MAP, IN THE INSPECTION REPORTS OR PROJECT BMP INSTALLATION LOG.**

5.5 PERIMETER CONTROLS


COMMON PERIMETER CONTROLS:

- Straw Bale Barrier
- Silt Fence Barrier
- Compacted Berm
- Compost/Wood Chip/Straw/Rock Sock (Wattle)
- Check Structures (Rock/Bale/Geosynthetic)

OBJECTIVE:

To reduce or prevent sediment discharge from the project site and prevent sediment from entering perennial streams. Sediment controls are designed to capture sediment and allow stormwater to flow through the control. Sediment controls are not designed to influence or alleviate drainage issues. Sediment barriers decrease water velocity thereby trapping and slowly metering sediment release through the system. They similarly reduce accelerated stream channel down cutting.

INSTALLATION:

Sediment barriers are effective in locations of highly erodible and sensitive soils and in areas with threats of sedimentation to downstream water quality. Specifically, sediment barriers may be installed:

- Below discharge locations;
- Areas with increased slope gradient resulting in increased sediment flow and water velocity from slope sides;
- Areas without natural sediment catch basins, such as small depressions; or
- Areas without native material, such as rocks or logs.

Perimeter sediment barriers should be installed in a way that will not produce concentrated flows.

INSPECTION AND MAINTENANCE:

Inspect the sediment barriers and perimeter controls to determine if they were installed correctly and per the applicable specifications (e.g. project engineer or manufacturer specifications). Confirm the control is adequately trenched (if required), backfilled, staked, anchored, tied, etc. There should be no gaps between the sediment barrier and the adjacent ends of the control, or between the control and the soil surface. Are the controls properly spaced and in the correct locations?

Ensure the material is in operating condition and does not present significant gaps, holes, or tears. It is important to determine if runoff is flowing under, over or around the perimeter control. If so, maintenance or re-installation may be necessary to return the control to effective operation. It may also be necessary to determine if, after multiple instances of maintenance or corrective activities, the temporary control is inadequate and should be upgraded. This may occur in areas of high concentrated runoff, wind, or public interference.

5.6 SEDIMENT TRACK-OUT MANAGEMENT

OBJECTIVE:

Sediment track – out is dirt, mud or other debris that is tracked onto an impervious public roadway, generally by a vehicle leaving the construction site. Sediment that leaves a construction site contributes directly to the degradation of air and water quality. As stormwater interacts with the sediment, it may wash into a public conveyance or U.S. water.

A project site's access points experience concentrated and loose sediment. The EPA suggests this directive as a minimum performance guideline, "At a minimum, you must provide for maintenance that meets the following requirement in CGP Part 2.2.4.d: Where sediment has been tracked - out from your site onto paved roads, sidewalks, or other paved areas outside of your site, remove the deposited sediment by the end of the same business day in which the track-out occurs or by the end of the next business day if track out occurs on a non-business day. Remove the track-out by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. You are

prohibited from hosing or sweeping tracked-out sediment into any stormwater conveyance, storm drain inlet, or water of the U.S."

The entrance may utilize several types of controls to capture sediment and prevent its movement offsite. Specifically, rumble mats or round stone approximately ≥4" in diameter have proven as effective dry approaches. Wash stations are effective wet solutions although the expense and maintenance of this method is significantly greater than a dry method.

INSTALLATION:

Stabilize all entrances to a site before construction and site disturbance begin. The stabilized entrances need to be large enough to allow the largest construction vehicle that will enter the site to fit through with room to spare. If many vehicles are expected to use an entrance in any one day, make the site entrance wide enough for two vehicles to pass at the same time with room on either side of each vehicle, and long enough to allow two full tire rotations.

If a site entrance leads to a paved road, make the end of the entrance flared so that long vehicles do not leave the stabilized area when they turn onto or off the paved roadway. If a construction site entrance crosses a stream, swale, or other depression, provide a bridge or culvert to prevent erosion from unprotected banks.

Make sure stone and gravel used to stabilize the construction site entrance are large enough so that they are not carried offsite by vehicles. Avoid sharp-edged stone to reduce the possibility of puncturing tires. Install stone or gravel at a depth of at least 6 inches for the entire length and width of the stabilized construction entrance.

INSPECTION:

Common items to consider when inspecting a rock construction entrance is to determine if the rock is the appropriate size, if the rock is compacted due to frequent use and no longer effective, and if the rock has been placed over a filter cloth or blanket material. Similarly, it is important to determine if the entrance is of sufficient length and width and allow for adequate wheel rotation. Ineffective installation and maintenance of a construction entrance or track – out pad may lead to increased offsite sediment tracking and pollutant discharge.

5.7 STOCKPILED MATERIALS, SEDIMENT, OR SOIL

OBJECTIVE:

Stockpiles of soil, Portland Cement Concrete (PCC), Asphalt Concrete (AC), Hot Mix Asphalt Cement (HMAC) and rubble are potential storm water pollutants if not properly managed. Eliminate stockpiles whenever possible. Elimination is the most certain method available to prevent sediment discharge. Secondary protection may include perimeter control or covering with blankets to minimize the stockpile's exposure to stormwater and non-stormwater discharge.

The following are requirements that apply to all stockpiles, regardless of season or material, if elimination is not possible:

- Locate stockpiles away from drainage courses, drain inlets or concentrated flows of stormwater.
- For wind erosion control, apply water or other dust palliative to stockpiles.
- Small stockpiles may be covered as an alternative.
- Place bagged materials on pallets and cover them with a tarp or similar material.

Soil Stockpiles

The temporary perimeter sediment barriers (e.g. wattles, dikes, silt fence) will contain any soil stockpiles. The description of the structural practice employed is included in the Perimeter Control section of this document. The design, installation and maintenance requirements are included in the description. In addition to utilizing structural perimeter barriers, perform the following as required by Part 2.2.5 of the CGP:

- Locate all stockpiles outside of any natural buffers and away from stormwater conveyances, drain inlets or areas of concentrated stormwater flow.
- Do not hose down or sweep soil or accumulated sediment into any stormwater conveyance, drain or water of the U.S.
- Cover or temporarily stabilize piles that will not be used for 14 days or more. See Section 6 of this plan for stabilization timeframe requirements.

Year-round, active soil stockpiles are to be protected with temporary linear sediment barriers prior to the onset of rain.

Paving Material & Waste Stockpiles

Stockpiles of PCC, AC/HMAC, aggregate base course, aggregate subgrade materials or rubbles are to be managed as follows:

- Cover non - active stockpiles or protect them with temporary perimeter sediment barriers prior to the onset of rain;

- Year – round, protect active stockpiles with temporary linear sediment barriers prior to the onset of rain.

Asphalt Stockpiles

During the non-rainy season, place non-active stockpiles of asphalt on plastic or a comparable material and cover the stockpile prior to the onset of rain.

During the rainy season, place asphalt stockpiles on plastic and always cover them. Year-round, active asphalt stockpiles are to be placed on plastic and covered prior to rain.

INSPECTION AND MAINTENANCE

Inspect stockpiles as part of the routine storm water inspection. The Operator(s) may repair or replace perimeter controls and covers to ensure proper function.

5.8 MINIMIZE DUST

OBJECTIVE:

Dust control BMPs reduce surface activities and air movement that causes dust to be generated from disturbed soil surfaces. Construction sites can generate large areas of soil disturbance and open space for wind to pick up dust particles. Limited research at construction sites has established an average dust emission rate of 1.2 tons/acre/month for active construction (WA Dept. of Ecology, 1992).

Airborne particles pose a dual threat to the environment and human health. First, dust can be carried offsite, thereby increasing soil loss from the construction area and increasing the likelihood of sedimentation and water pollution. Second, blowing dust particles can contribute to respiratory health problems and create an inhospitable working environment.

Dust control measures are applicable to any construction site where there is the potential for air and water pollution from dust traveling across the landscape or through the air. Dust control measures are especially important in arid or semiarid regions, where soil can become extremely dry and vulnerable to transport by high winds.

INSTALLATION:

Implement dust control measures on all construction sites where there will be major soil disturbances or heavy equipment construction activity such as clearing, excavation, demolition, or excessive vehicle traffic. Earthmoving activities are the major source of dust from construction sites, but traffic and general disturbances can also be major contributors (WA Dept. of Ecology, 1992). The dust control measures that are implemented at a site will depend on the topography and land cover of the site and its soil characteristics and expected rainfall.

DUST CONTROL METHODS

When designing a dust control plan for a site, the amount of soil exposed will dictate the quantity of dust generation and transport. Therefore, construction sequencing and disturbing only small areas at a time can greatly reduce problematic dust from a site. If land must be disturbed, consider using temporary stabilization measures before disturbance. Several methods exist which can be used to control dust from a site but not all will be applicable to a site.

Consider site-specific assessments and weather conditions to determine which method may be most effective. The following lists some control measures and design criteria:

- Sprinkling/Irrigation

  Sprinkling the ground surface with water until it is moist is an effective dust control method for haul roads and other traffic routes. This practice can be applied to almost any site.

- Vegetative Cover

  In areas not expected to handle vehicle traffic, vegetative stabilization of disturbed soil is often desirable. Vegetative cover provides coverage to surface soils and slows wind velocity at the ground surface, thus reducing the potential for dust to become airborne.

- Mulch

  Mulching can be a quick and effective means of dust control for a recently disturbed area and may reduce wind erosion by up to 80 percent.

- Wind Breaks

  Wind breaks are barriers (either natural or constructed) that reduce wind velocity through a site and, therefore, reduce the possibility of suspended particles. Wind breaks can be trees or shrubs left in place during site clearing or constructed barriers such as a wind fence, snow fence, tarp curtain, hay bale, crate wall, or sediment wall.

  For each foot of vertical height, and 8 to 10-foot deposition zone develops on the leeward side of the barrier. The permeability of the barrier will change the breaks effectiveness at capturing windborne sediment.

- Tillage

  Deep tillage in large open areas brings soil clods to the surface where they rest on top of dust, preventing it from becoming airborne. Roughening the soil can reduce losses by approximately 80 percent in some situations.

- Stone

  Stone can be an effective dust deterrent for construction roads and entrances or as a mulch in areas where vegetation cannot be established. The size of the stones can affect the amount of erosion taking place. In areas of high wind, small stones are not as effective as 20 cm stones, for example.

- Spray-on Chemical Soil Treatments (Palliatives)

  Chemical palliatives should be used only on mineral soils. When considering chemical application to suppress dust, determine whether the chemical is biodegradable or water-soluble and what effect its application could have on the surrounding environment, including waterbodies and wildlife. Per limited research, the effectiveness of polymer stabilization methods range from 70 percent to 90 percent.

  Examples of palliatives include:

  - Guar
  - M-Binder
  - Resin

INSPECTION AND MAINTENANCE:

Because dust controls are dependent on specific site and weather conditions, inspection and maintenance requirements are unique for each site. Generally, however, dust control measures involving application of either water or chemicals require more monitoring than structural or vegetative controls to remain effective. If structural controls are used, inspect them regularly for deterioration to ensure that they are still achieving their intended purpose.

5.9 MINIMIZE STEEP SLOPE DISTURBANCE

The project **does not have** steep slope areas. This section will not apply if the project does not have a steep slope.

Steep slopes have many definitions. Generally, slopes that are 15 percent or greater in grade meet the steep slope requirements of the 2017 CGP unless a state, tribe, local government or industry technical manual has otherwise defined 'steep slope'. The methods of compliance are linked with the phase of construction.

Consider using spray-on chemical treatments as described in Section 5.8 of this plan to minimize steep slope disturbance and erosion. The palliative may be applied by hydraulic methods or executed with a spray truck (hydroseeder).

INSPECTION AND MAINTENANCE:

Inspect the palliative treatment during each regularly scheduled inspection and after each rain event. If there is evidence of erosion or sediment subsistence at the toe of the slope, reapply the temporary treatment.

5.9.1.1 TOPSOIL

This project **has** extensive paving, concrete or other impervious structures.

Topsoil, if the project is not highly impervious, will be stockpiled in an area of the project where it can be preserved by sediment barriers at the base of the pile combined with the mitigation measures described in the Minimization of Dust section in nearby sections of the document. Alternatively, the topsoil pile can be covered with geotextile or other impenetrable barrier to preserve the material in the pile.

INSPECTION AND MAINTENANCE:

Maintenance Requirements for the topsoil pile will follow those listed in the Stockpile discussion included in the document.

5.9.1.2 SOIL COMPACTION

Where engineered infiltration or vegetation practices are the stabilization methods and compaction has occurred, it is necessary to condition the area to accept the stabilization practice. Determining the level of compaction is a site-specific activity. The area to be vegetated should be marked to prevent traffic and to notify site employees to avoid the area until the vegetation activities take place.

If the conditioning method is not listed in the specification documents, the specification for installation of vegetative means or infiltrations practices will be provided by the provider. The specifications are included in the Product Data section of this binder if available.

5.10 STORM DRAIN INLET PROTECTION

OBJECTIVE:

Storm Drain Inlet Protection devices are structures designed to reduce flow and capture sediment from runoff entering the structure. Inlet protection methods are most effective when used in combination with pavement sweeping programs and maintenance activities focused on ensuring sediment removal at the structure.

INSTALLATION:

Conventional storm drain (drop) inlet protection methods consist of wire-backed silt fence covering the inlet opening and held in place with 1" to 2" round, washed stone to reduce flow velocity.

Alternative methods to stone use include placing a wattle (compost or wood chip sock) across the opening of the inlet or around the perimeter of a median inlet. The wattle is anchored by bags containing washed stone or consistently placed stakes. The rock-filled backs must act as a complete barrier around the entire perimeter of the grated are to interrupt flow and allow sediment deposition.

A final alternative utilizes a natural fiber product cut to fit the grate opening and anchored with a zip-tie or similar mechanism.

To install storm drain inlet protection:

1. Clean and prepare the inlet:
    a. Remove all sediment from the curb and gutter as it approaches the inlet.
    b. Remove all rocks, trash, sediment, and vegetation along the curb and around the inlet structure.
    c. Confirm the grate and frame is in place.
    d. Ensure the inlet opening is free from any obstructions.
2. Cover the grate opening with wire-backed silt fence. Each end of the fence must extend beyond the frame.
    a. If using gravel, extend the gravel 2' into the roadway area.
    b. If using wattles and rock- filled bags, place the bags around the perimeter of the grate frame. Extend the wire-backed silt fence to the outer edge of the bags.
3. Cover the inlet opening:
    a. If using gravel, wire backed silt fence must cover the entire opening and extend over the inlet top 6" fully covered by gravel.
    b. If using a wattle and rock filled bag, the wattle will cover the inlet opening and will be held in place by at least one rock filled bag on each side of the opening.
4. If using a manufactured product, install the control per the manufacturer's specifications ***AND*** in accordance with project specifications. Project specifications control unless indicated otherwise by project management.

INSPECTION AND MAINTENANCE:

Inspect the inlet protection during each inspection cycle, after each rainfall event and each maintenance activity to ensure the structure can perform per the specifications.

1. If gravel is used and it is filled with sediment to 33% of the height of the opening or pile:
    a. Remove and wash the stone to eliminate the captured sediment.
    b. Replace the stone with washed, sediment free material.
2. If a wattle and rock filled bags are used and the sediment is 50% of the height of the bag:
    a. Remove the bags from around the structure and inspect them for damage.
    b. Replace damaged bags with new material.
    c. Bags that are not damaged should be cleaned to free captured sediment from the surface and re-set around the structure.
    d. Reset the bags around the structure to ensure compliance with the specification and deliver designed performance.
    e. Inspect the wattle and clean it if sediment has accumulated on its surface. The wattle can be re-used if the netting or fabric has minor damage.
        i. Minor damage to netting is a cut or tear, 4" strands or less 'in a row'.
        ii. Minor damage to fabric is a cut or tear 2" or less.
    f. Wattles having more damage than described as minor damage should be discarded and replaced.

3. The wire backed silt fence should be cleaned from collected sediment. If the material is damaged – punctured/torn – then it should be replaced.

Material damage will be the decision of the Project Engineer. Replacement of damaged materials is considered incidental to the project.

5.11 CONSTRUCTION STORMWATER CONVEYANCES

OBJECTIVE:

Incorporating conveyance channels into a project demonstrates well-developed engineering practices. Control methods must address and prevent channel deterioration to ensure the channel does not contribute to sedimentation and pollution of waters of the U.S. It is equally important to include velocity dissipation measures to ensure:

- The velocity gradient in the channel is moderated
- The geometry of the channel is maintained
- Pollutants are controlled
- Sediment is captured and contained onsite

5.11.1 CHANNEL CONTROLS

5.11.1.1 CHECK DAMS

OBJECTIVE:

Check dams slow the velocity of concentrated water flows. They are relatively small, temporary structures constructed across a swale or channel. As stormwater runoff flows through the structure, the check dam catches sediment from the channel itself or from the contributing drainage area.

However, check dams should not be used as a substitute for other sediment-trapping and erosion-control measures. Check dams are typically constructed out of silt fence, gravel or rock, or wattles. They are most effective when used with other stormwater, erosion, and sediment-control measures.

INSTALLATION:

When using rock, the material diameter should be two to 15-inches. Silt fence should be at least 24" in exposed height from trenching. A check dam should not be more than three-feet high, and the center of the dam should be at least six-inches lower than its edges. This design creates a weir effect that helps to channel flows away from the banks and prevent further erosion. Dams can be made more stable by implanting the material approximately six-inches into the sides and bottom of the channel (VDCR, 1995).

When installing a series of check dams in a channel, install outlet stabilization measures below the final dam in the series. Because this area is likely to be vulnerable to further erosion, the use of other stabilization measures like riprap or reinforced turf reinforcement blankets are recommended.

INSPECTION AND MAINTENANCE:

When inspecting the check dams, the center should be lower than the two end-points. The top of a lower check dam should be level with the base of the preceding (higher) check dam. If erosion or heavy storm flows cause the ends of the dams to fall to a height equal to or below the center, repair and reset the check dam immediately.

During the inspection, remove large debris, trash or natural material which may alter the stormflow around the check dam structure.

When sediment reaches a height of approximately 50% of the original height of the check dam, remove the accumulated sediment from the upstream side.

Before removing a check dam, remove all accumulated sediment.

After removing check dams, ensure that all dam materials are removed to ensure proper channel flow. Additionally, use permanent vegetation measures to stabilize the area from which the dam material is removed.

5.11.1.2 SEDIMENT BASINS

SEDIMENT BASINS OR TRAPS WILL BE INSTALLED AS A CONTROL IN THE PROJECT.

OBJECTIVE:

Sediment traps are small impoundments that allow sediment to settle from construction runoff. They are usually installed in a drainage way or other discharge point. Sediment traps are most commonly used at channels, slope drains, dewatering locations, construction site entrance wash tracks, conveyance discharge points or any other runoff outlet.

Sediment traps detain sediments in stormwater runoff to protect receiving streams, lakes, drainage systems and the surrounding area. The traps are formed by excavating an area or by placing an earthen embankment across a low area or drainage swale.

Drainage swales, sediment traps or sediment basins capture runoff and sediment on a larger scale than smaller BMPs. They are sized to manage large storm or drainage areas. Sediment basins also allow for the controlled return of surface water in dewatering situations while simultaneously capturing sediment. Lastly, sediment traps provide collections points for sediment at the perimeter of site discharge locations meeting the ELG regulatory requirements.

INSTALLATION:

When excavating an area for a sediment trap, the side slopes should not be steeper than 2:1 and the top of the embankment no more than 5 feet from the original ground surface.

Ensure stability of side walls, mounds, and barriers by Machine-compacting all embankments. If the trap is created above grade it should be lined with well-graded stone to reduce flow rate from the trap the outlet.

The spillway weir for each temporary sediment trap should be at least 4 feet long for a 1-acre drainage area and increase by 2 feet for each additional drainage acre added, up to a maximum drainage area of 5 acres.

INSPECTION AND MAINTENANCE:

Inspect the sediment basin or trap per the schedule outlined in this plan. At each inspection, ensure the trap is draining properly. Remove sediments when the basin reaches 50% sediment capacity. Inspect the structure for damage from erosion by reviewing the depth of the spillway and maintain it at a minimum of 18 inches below the lowest point of the trap embankment.

Take care to situate sediment traps for easy access by maintenance crews. The primary maintenance consideration for temporary sediment traps is to remove accumulated sediment. Do this periodically to ensure ongoing operation. Perform re-compaction of side walls, mounds, and barriers after extended periods of water retention to ensure each is competent to accept future flows.

5.12 CHEMICAL TREATMENT

Chemical treatment is not employed as a BMP on this project.

5.13 DEWATERING PRACTICES

Dewatering is not required on the project.

5.14 OTHER STORMWATER CONTROLS

5.14.1 NPDES NOTIFICATION BOARD

OBJECTIVE:

To ensure the soil disturbance information for the project is readily for review and use by the public and site personnel. The NPDES Notification must be large enough to contain information about the project and all notifications and posting. The NPDES Notification must provide all soil disturbance information, including the NPDES tracking number, contact for additional information, directive to the SWPPP location, and a directive to contact the EPA if there is an indication of stormwater pollutants in site discharge or a receiving waterbody, in accordance with Part 1.5 of the 2017 CGP.

INSTALLATION:

The NPDES Notification must be installed or posted at a location which is easily accessible to the public. It must be located so that it is visible from the public road that is nearest the active part of the construction site and it must use font large enough to be readily viewed from public right-of-way.

INSPECTION AND MAINTENANCE:

The NPDES Notification Board will be inspected during the scheduled site inspections per Part 4.2 of the CGP. The board should always be in proper condition with a rain gauge attached. Any identified board maintenance will be scheduled for repair.

5.14.2 TEMPORARY SANILET FACILITIES

OBJECTIVE:

To provide personal waste facilities for site personnel for the proper collection, disposal, and prevention of waste products in compliance with OSHA regulations. Temporary sanilet facilities encourage good housekeeping measures at the construction site. Their installation meets OSHA regulations and prevents pollution and stormwater contamination.

INSTALLATION:

The sanilet provider may install the device at locations throughout the project site which provide convenient access to both site personnel and equipment maintenance or removal operators. Sanilets should not be installed near any discharge or inlet location, such as on top of or uphill from a storm drain or drop inlet. The sanilet provider should securely anchor the facility to prevent tipping. It may be necessary to install a secondary control measure, such as a wattle perimeter or earth berm, to further ensure minimal runoff.

INSPECTION AND MAINTENANCE:

Inspect sanilet facilities daily to determine if they have reached 50% volume capacity. The facilities should be removed, replaced, or emptied when they have reached or exceeded this amount. Daily inspection should check that all plastic structures are intact and do not show signs of damage from construction, vandalism, or weather – related activities. Inspectors should also determine if the location is appropriate and not near discharge or inlet locations.

Sanilets are designed to promote safe and sanitary use. However, if stored liquids have not been removed and the sanilet is nearing capacity, vacuum and dispose of them in an approved manner - check with the local sanitary sewer authority to determine if there are special disposal requirements.

6 SITE STABILIZATION

The project is located in an arid, semi-arid or drought-stricken area.

Regardless if the project is located in an arid, semi-arid or drought-stricken area, projects operating in New Mexico, except Indian country, must comply with the temporary stabilization deadlines noted in Parts 2.2.14.

6.1 STABILIZATION INITIATION TIMEFRAME REQUIREMENTS

Per Part 2.2.14 of the CGP, "You must initiate soil stabilization measures immediately whenever earth-disturbing activities have permanently or temporarily ceased on any portion of the site."

The term "immediately" is used to define the deadline for initiating stabilization measures. In the context of this provision, "immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.

Per 2.2.14 of the CGP clarifies and defines 'permanently' and 'temporarily' to assist Operators to determine which requirements apply to the project area:

- *"Earth-disturbing activities have **permanently** ceased* when clearing and excavation within any area of your construction site that will not include permanent structures has been completed."
- *"Earth-disturbing activities have **temporarily** ceased* when clearing, grading, and excavation within any area of the site that will not include permanent structures will not resume (i.e., the land will be idle) for a period of 14 or more calendar days, but such activities will resume in the future."
    - The 14-calendar day timeframe above begins counting as soon as you know that construction work on a portion of your site will be temporarily ceased. In circumstances where you experience unplanned or unanticipated delays in construction due to circumstances beyond your control (e.g., sudden work stoppage due to unanticipated problems associated with construction labor, funding, or other issues related to the ability to work on the site; weather conditions rendering the site unsuitable for the continuation of construction work) and you do not know at first how long the work stoppage will continue, your requirement to immediately initiate stabilization is triggered as soon as you know with reasonable certainty that work will be stopped for 14 or more additional calendar days. At that point, you must comply with Parts 2.2.1.1 and 2.2.1.2."

6.2 STABILIZATION – INITIATION ACTIVITIES

If construction work ceases on a portion of the site for a continuous 14-day period, ***but will resume in the future,*** the Permittee will stabilize the disturbed areas with a means shown in the list below.

Part 2.2.14 of the CGP provides the following list of initiation examples as a guide. This list is not exhaustive:

1. Prepping the soil for vegetative or non-vegetative stabilization;
2. Applying mulch or other non-vegetative product to the exposed area (e.g. temporary soil stabilizer);
3. Seeding or planting the exposed area;
4. Starting any of the activities in # 1 – 3 on a portion of the area to be stabilized, but not on the entire area; and
5. Finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization in Parts 2.2.14.

The areas disturbed will exclude locations in which construction has not started or locations in which construction has implemented permanent stabilization. Locations where permanent stabilization practices and controls have been implemented will conform to the design specifications for each or the Stabilization Practices – Post Construction listed herein.

6.3 STABILIZATION – COMPLETION DEADLINE

Per Part 2.2.14 of the CGP, for areas of disturbance less than or equal to five acres stabilization activities must be completed as soon as practicable but no later than 14 calendar days after stabilization has been initiated as discussed above.

For areas of disturbance greater than five acres, stabilization measures must be complete as soon as practicable, but no less than seven (7) calendar days after stabilization has been initiated.

At the close of the stabilization period, the site must exhibit the following:

1. If using vegetative stabilization, all activities necessary to initially seed or plant the area to be stabilized have occurred. Such activities may include soil conditioning, applying seed or sod, planting seedlings, applying fertilizer or watering; and/or
2. If using non-vegetative stabilization, all non-vegetative measures are installed or applied.

6.4 SITE STABILIZATION PRACTICES FOR TEMPORARILY CEASED ACTIVITIES

Legacy at Sierra Vista may use the following stabilization methods to comply with Part 2.2.14 of the CGP. Descriptions of the mechanism and maintenance protocols for Non-Vegetative Controls are available in BMP Measures and Product Details Tab of this plan. Descriptions of the mechanism and maintenance protocols for Vegetative Controls are available in BMP Measures and Product Details Tab of this plan.

TABLE 6.0 SITE STABILIZATION PRACTICES FOR TEMPORARILY CEASED ACTIVITIES

STABILIZATION PRACTICE	STABILIZATION TYPE	IMPLEMENTATION SCHEDULE (EST.)	CONVERT TO PERMANENT?
Sprayed Water	Non-Vegetative	SEE SCHEDULE NOTE*	No
Temporary Soil Stabilizer	Non-Vegetative	SEE SCHEDULE NOTE*	No
Silt Fence	Non-Vegetative	SEE SCHEDULE NOTE*	No
Pond	Non-Vegetative	SEE SCHEDULE NOTE*	Yes
***SEE THE CONTRACTOR'S SCHEDULE FOR EXACT ACTIVITY DATES. ALTERNATIVELY, THE INSTALLATION DATES FOR BMPs ARE AVAILABLE IN THE SWPPP SITE MAP, IN THE INSPECTION REPORTS OR PROJECT BMP INSTALLATION LOG.**			

6.5 PERMANENT STABILIZATION – POST CONSTRUCTION

The area from which vegetation is removed or the soil disturbed is that area which will be designated for excavation, grading, concrete, paving, vertical construction or landscaping for this project and must be addressed in the design of the entire project.

Stabilization is more than establishing of vegetation. Site stabilization is coverage of the disturbed area with a constructed element (e.g. a building or stabilized channel) or a natural element (e.g. seeding or planted vegetation). It is important for the reviewer to acknowledge sites include both constructed and natural elements that can deliver stabilization equivalent to the 'pre-construction condition'. A representative site evaluation will recognize an appropriately stabilized area prevents the transport of sediment off the site. Prevention of sediment transport is attainable using constructed elements as well as natural elements. The site around which this plan is developed incorporates the contract documents for constructed elements, permanent erosion control or other stabilization means.

If the contract documents do not detail permanent stabilization practices, then permanent stabilization will follow the methods listed in this SWPPP.

It is the intent of the Operator(s) to provide and comply with permitted coverage requirements until 70% of the natural vegetated state (prior to disturbance) is achieved.

> The criteria for final stabilization in Part 2.2.14b is to "Establish uniform, perennial vegetation (i.e., evenly distributed, without large bare areas) that provides 70 percent or more cover that in provided by vegetation native to local undisturbed areas; and/or Implement permanent non-vegetative stabilization measures to provide effective cover."

There is an exception to the above criteria for Arid, semi-arid, and drought- stricken areas:

> Final stabilization is met if the area has been seeded or planted to establish vegetation that provides 70 percent or more of the cover that is provided by vegetation native to local undisturbed areas within three (3) years and, to the extent necessary to prevent erosion on the seeded or planted area, non-vegetative erosion controls have been applied that provide cover for at least three years without active maintenance.

TABLE 6.1 SITE STABILIZATION PRACTICES FOR PERMANENTLY CEASED ACTIVITIES

STABILIZATION PRACTICE	STABILIZATION TYPE	IMPLEMENTATION SCHEDULE (EST.)	CONVERTEDFROM TEMPORARY?
Water and Sewer Line	Non-Vegetative	SEE SCHEDULE NOTE*	No
Pond	Non-Vegetative	SEE SCHEDULE NOTE*	Yes
Drill Seeding with Hydromulch	Vegetative	SEE SCHEDULE NOTE*	No
Paving	Non-Vegetative	SEE SCHEDULE NOTE*	No
		SEE SCHEDULE NOTE*	
***SEE THE CONTRACTOR'S SCHEDULE FOR EXACT ACTIVITY DATES. ALTERNATIVELY, THE INSTALLATION DATES FOR BMPs ARE AVAILABLE IN THE SWPPP SITE MAP, IN THE INSPECTION REPORTS OR PROJECT BMP INSTALLATION LOG.**			

7 POLLUTION PREVENTION STANDARDS

7.1 POTENTIAL SOURCES OF POLLUTION

Every site has sources of pollution. Obvious sources of pollution include paving operations, stucco, painting, trash, and others. Activities that are pollution sources, naturally, have identifiable pollutants and types of pollutants requiring control.

Proper stormwater management includes listing of the activities, pollutants, and locations on the site where special attention must be paid to ensure compliance. The following list shows the elements of potential pollution sources specific to the site at the time the plan was generated.

Pollutant Generating Activity	Pollutants or Pollutant Constituents (that could be discharged if exposed to stormwater)	Location on Site (or reference SWPPP site map where this is shown)
Material Stockpiling and Handling	Sediment, pH	Stockpile Areas
Construction Debris and Materials	Material Waste, Worker Waste and Debris	Entire Site
Equipment Activity, Fueling and Maintenance	Oil, Petroleum Distillates, Greases and Fuels	Entire Site
Sanitary Toilets	Bacteria, Parasites and Viruses	Entire Site
Excavation & Grading	Sediment, Aggregate	Excavation Areas
Backfilling	Sediment, Aggregate	Entire Site
Asphalt Paving	Asphalt, Polymerized Asphalt, Oil, Tar, Petroleum Distillates, Admixtures, VOC	Roadway
Trenching	Sediment, pH, Debris	Water and Sewer Line Areas, Silt Fence Installation

7.2 SPILL PREVENTION AND RESPONSE

The discharge or spill of hazardous substances is not expected to occur due to or during construction activities. The project and its activities are not expected to use any substance in a manner or quantity that might require the reporting of a release in excess of reportable quantities. Substances and reportable values include:

HAZARDOUS SUBSTANCES	WHERE RELEASED	REPORTABLE QUANTITY
Engine Oil, fuel, hydraulic and brake fluids	Land	25 Gallons
Engine Oil, fuel, hydraulic and brake fluids	Water	Visible Sheen
Antifreeze, battery acid, gasoline, engine degreasers, radiator fluid	Air, Land, or Water	100 lbs. or 13 Gallons
Paints, solvents, and thinners	Land	100 lbs. or 13 Gallons
Freon	Air	1 lb.

When an incident (spill of hazardous material in excess of reportable quantities) occurs within the project during construction activities, the following measures will be employed:

THE OPERATOR WILL:	TIME ACTION REQUIRED	RESPONSIBLE EMPLOYEE ONSITE
Stop the source of the spill	Immediate	Site Supervisor(s)
Contain the spill utilizing (compost) mulch socks or soil berms	Immediate	Site Supervisor(s)
Clean up the spill	Once Spill is Contained	Site Supervisor(s)
Dispose of material contaminated by the spill in an approved disposal site	Within 24 Hours	Site Supervisor(s)
Notify both the National Response Center (1-800-424-8802) and the New Mexico Environment's Hazardous and Radioactive Materials Bureau (1-505-827-4300) providing a release of hazardous materials in excess of reportable quantities has occurred.	Within 24 Hours	Project Manager
Submit a description of the incident to the appropriate authorities (SWQB)	14 Calendar Days	Project Manager
Modify SWPPP, if appropriate, and identify prevention measures.	14 Calendar Days	E2RC, LLC

This site does not require a Spill Prevention Control and countermeasure (SPCC) plan. If a plan is required, it will be found in a separate binder at the construction site office.

7.3 FUELING AND EQUIPMENT MAINTENANCE

OBJECTIVE:

To minimize or eliminate the discharge of fuel spills and other pollutants into the storm water management system on construction sites. Key areas include all construction sites where storage and maintenance occurs on – site, and all fueling areas within a construction site.

INSTALLATION:

Limitations:

- Fuel vehicles on-site only when off-site fueling is impractical.
- Comply with local codes regarding fluid disposal and on-site equipment maintenance.

Standards and Specifications:

- Spill cleanup kits should be available in fueling areas and on fueling trucks. Proper disposal is required.
- A drip pan or absorbent pad should be used unless fueling or maintenance activities occur over an impervious surface.
- When a vehicle is located over a water body (dock, barge) and is planned to be idle for more than one hour, a drip pan or sheet should be placed under the vehicle.
- Fueling areas should be:
    - Located at least 100 feet from waterways, channels, and storm drains.
    - Protected from run-on or runoff.
    - Located on a level-graded area.
    - Attended always during fueling.
    - Fueling equipment should be equipped with an automatic shut-off nozzle to contain drips.
    - Fuel tanks should not be “topped-off”.
    - Avoid mobile fueling.
    - Observe federal, state, and local requirements relating to any stationary aboveground storage tanks. Double containment mechanisms should be employed whenever possible.
    - Do not dump fuels and lubricants onto the ground.
    - Do not bury used tires.
    - Do not dispose of oil in a dumpster or pour it down the storm drain.
    - Properly dispose of used batteries.
    - Conduct washing, fueling, and major maintenance off-site whenever possible.
    - Inspect vehicles for leaky hoses, gaskets, or other problems.
    - Locate vehicle services areas away from waterways, storm drains, gutters, and curbs.
    - Use berms, sand bags, or other barriers to contain areas.
    - Do not use detergents, solvents, degreasers, or other chemical products to do on-site cleaning.

- Use a drip pan or drip cloth if fluids will be drained and replaced on-site.
- Collect all used fluids, store in separate labeled containers, and either recycle or dispose of properly.

INSPECTION AND MAINTENANCE:

- Inspect on all containment structures.
- Maintain waste fluid containers in a leak proof condition.
- Service sumps associated with wash areas regularly.
- Inspect daily for leaks on vehicles and equipment.
- Keep an ample supply of spill cleanup materials available on-site.
- Clean up spills immediately and dispose of waste properly.
- Prevent boil-over by regularly cleaning equipment radiators.

7.4 EQUIPMENT OR VEHICLE WASHING

OBJECTIVE:

To minimize or eliminate the discharge of pollutants entering the storm drain system from vehicle and equipment cleaning operations at all construction sites where vehicle cleaning occurs.

INSTALLATION:

Limitations:

- Wash water discharges may need to be pretreated before release into the sanitary sewer.

Standards and Specifications:

- On-site vehicle and equipment washing is discouraged.
- Do not clean vehicles and equipment with detergent, solvents, or steam on the project site.
- Contain wash water away from storm drain inlets or waterways for evaporative drying or percolation.
- Off-site cleanings are encouraged for all vehicles and equipment that regularly enter and leave the construction site.
- Conduct washing, fueling, and major maintenance off-site whenever possible.
- If equipment or vehicle washing must occur on-site:
    - Locate cleaning area away from storm drain inlets, drainage facilities, or waterways.
    - Perform the washing in a paved area with concrete or asphalt utilizing a berm to contain wash waters and prevent run-on or runoff.
    - Install a sump to collect wash water.
    - Do not discharge wash waters to storm drains or waterways.
    - Use only when necessary.
    - When cleaning vehicles with water:

- Consider using a high-pressure sprayer or a positive shut-off valve to reduce water usage.

INSPECTION AND MAINTENANCE:

- Inspect the control measure at a minimum of once per week.
- Monitor employees and subcontractors to ensure they are implementing or following proper practices.
- Regularly inspect and maintain the sump. Remove sediments and liquids as needed.

7.5 STORAGE, HANDLING AND DISPOSAL OF CONSTRUCTION PRODUCTS, MATERIALS, AND WASTES

Building Products are not found on the site per CGP Part 2.3.3a. Section 7.9 Construction and Domestic Waste describes the practices utilized for this area.

Pesticides, Herbicides, Insecticides, Fertilizers, and Landscape Materials are not found on the site per CGP Part 2.3.3b. Section 7.7 Fuels, Oils, Hydraulic Fluids, Other Petroleum Products, and Chemicals and Section 7.8 Hazardous and Toxic Waste describes the practices utilized for this area.

OBJECTIVE:

To minimize the exposure of these products to precipitation and stormwater:

PRODUCT/MATERIAL/WASTE	PROTECTION	LOCATION*	DISPOSAL
Building Materials/Products	Covered Containers, Conex Boxes, Plastic Sheeting or Temporary Roofing	See TESC Plan	Offsite
Pesticides, Herbicides, Insecticides	Covered Containers, Conex Boxes, Plastic Sheeting or Temporary Roofing	See TESC Plan	Offsite
Fertilizers, Landscape Materials	Covered Containers, Conex Boxes, Plastic Sheeting or Temporary Roofing	See TESC Plan	Offsite
Fuels, Oils, Hydraulic Fluids, Etc.	Water – tight containers, Spill Kit, Plastic Sheeting, Temporary Roofs or Secondary Containment	Staging Area	Offsite
Hazardous or Toxic Wastes**	Labeled Sealed Containers, Secondary Containment or Store in Covered Area, Spill Kit	See TESC Plan	Offsite

Construction Waste	Closed/Covered Waste Receptacle	See TESC Plan	Offsite
Sanitary Waste	Anchored Portable Toilets	See TESC Plan	Offsite

*The location is a preliminary location as of the design date of this SWPPP. Refer to the updated TESC drawings for current location.

**Separate hazardous waste from construction and domestic waste. Dispose of hazardous and toxic waste in accordance with local, state or federal requirements.

7.6 WASHING OF APPLICATIONS AND CONTAINERS USED FOR PAINT, CONCRETE OR OTHER MATERIALS

ONLY INCORPORATED AND APPLICABLE IF THE PERMITTEE IS UNABLE TO WASHOUT OFFSITE

OBJECTIVE:

Concrete washouts are used to collect and contain concrete and liquids when the chutes of concrete mixers and hoppers of concrete pumps are rinsed after delivery. The washout controls consolidate solids for easier disposal and prevent runoff of liquids. Proper containment prevents caustic material from reaching the soil surface and migrating to surface waters or ground water.

The wash water is alkaline and contains high levels of chromium, which can leach into the ground and contaminate groundwater. It can also migrate to a storm drain, which can increase the pH of area waters and harm aquatic life. Solids that are improperly disposed of can clog storm drain pipes and cause flooding. Installing concrete washout facilities not only prevents pollution but also is a matter of good housekeeping at your construction site.

INSTALLATION:

Install the washout in an area that is convenient and provides easy access for concrete trucks, preferably near the area in which the concrete is being poured. There are various types of washout containers the Contractor may use at a jobsite to collect and contain wash water. Such methods include but are not limited to chute washout boxes, buckets and pumps, lined washout pits surrounded by an adequate berm or bale barrier, vinyl washout containers, and metal washout containers.

Washout containers should be leak proof and of adequate size to accommodate anticipated material use and waste without causing spillage. Each method should be installed in concurrence with manufacturer specifications of design specifications.

INSPECTION AND MAINTENANCE:

Inspect all concrete washout facilities daily to determine if they have filled to 75 percent capacity, which is when materials need to be removed. Washouts should be inspected daily to ensure that plastic linings are intact and sidewalls have not been damaged by construction activities. Inspectors should also note whether the facilities are being used regularly. If drivers have washed their chutes or hoppers in other locations, place additional washouts in more convenient locations.

Concrete washouts are designed to promote evaporation where feasible. However, if stored liquids have not evaporated and the washout is nearing capacity, vacuum and dispose of the waste in an approved manner. Check with the local sanitary sewer authority to determine if there are special disposal requirements for concrete wash water.

- Remove liquids or cover the structures before predicted rainstorms to prevent overflows.
- Remove hardened solids whole or break them up depending on available equipment for removal and local regulations.
- Following material removal, build a new structure, or if the previous structure is still intact, inspect the structure for signs of weakening or damage and make any necessary repairs.
- Line the concrete structure with new plastic that is free of holes or tears each time concrete removal is performed.
- Replace signage if necessary.

7.7 FUELS, OILS, HYDRAULIC FLUIDS, OTHER PETROLEUM PRODUCTS AND CHEMICALS

OBJECTIVE:

To minimize or eliminate the discharge of hazardous or non-hazardous materials to storm drains, watercourses, or drainage channels. These practices are applicable to all construction sites that have delivery and/or storage of:

- Fuel, oil, grease
- Herbicides, pesticides, fertilizers
- Asphalt, concrete and their components

- Acids, curing and form compounds
- Other hazardous materials

INSTALLATION:

Limitations:

- All temporary storage buildings must meet building codes.
- Storage must meet fire codes.
- All secondary containment structures and materials should be removed from the site upon completion of the project and disposed of per regulations.

Standards and Specifications:

- Designate a storage area that is not near a storm drain or watercourse.
- Follow manufacturers' instructions on application, storage, and disposal of materials.
- Store on-site only the amount of material necessary for the job.
- Use non-hazardous and environmentally friendly products.
- Provide indoor storage or cover stockpiled materials and wastes with a tarp.
- Provide covered storage for secondary containment of hazardous materials.
- Use secondary storage to prevent soil contamination.
- Monitor employees and subcontractors to ensure that proper practices are being implemented.
- Keep all material in original containers.
- Label all stored materials per state, local and federal regulations.
- Do not store incompatible materials together.
- Keep adequate supply of cleanup materials on site at all times.
- Report all spills.
- Do not apply hazardous chemicals during wet or windy conditions.

INSPECTION AND MAINTENANCE:

- Inspect storage areas weekly to ensure neatness.
- Post proper storage instructions and Material Safety Data Sheets (MSDS) for all currently stored materials.
- Repair and replace damaged secondary containment facilities.
- Remove all empty containers and packaging from site.
- Store materials with adequate clearances for access and emergency response.

7.8 HAZARDOUS OR TOXIC WASTE

OBJECTIVE:

To minimize or eliminate the discharge of hazardous wastes from construction sites to storm drains, gutters, watercourses, and drainage channels. These practices are applicable to the following products:

- Petroleum products
- Asphalt products
- Concrete products
- Herbicides and pesticides
- Acids for cleaning masonry
- Soil stabilization chemicals
- Septic wastes
- Paints, solvents, stains, and wood preservatives
- Materials that were used to treat or adsorb other wastes
- Hazardous construction wastes such as lead, asbestos, or lead paint

INSTALLATION:

Limitations:

- Does not address preexisting contamination or site assessments.
- Large spills or other serious hazardous wastes require immediate response from specialists.
- Contractor is required to follow all federal, state and local laws regarding handling, storing, and transporting waste materials.

Standards and Specifications:

- Waste containers shall be constructed of a suitable material and properly labeled according to regulations. Labels must include type of material, time of collection and site location.
- Temporary containment for stored materials should be sized at 1.5 times the volume of the stored material. Materials must be stored in sealed drums.
- Temporary containment areas shall be free of accumulated storm water and spills.
- Temporary containment areas shall have room between containers for emergency response and cleanup.
- Incompatible materials shall be stored separately.
- Do not store different materials in the same container.
- Do not locate temporary containment areas near storm drains, gutters, watercourses, or drainage channels.
- Provide adequate access to temporary containment areas.
- Store containers on pallets under a covered, protected area unless containers are watertight.
- Do not dispose of liquid waste in dumpsters or other solid waste containers.

- Collect water from decontamination procedures, treat it and dispose of it at an appropriate disposal site.
- Educate employees and subcontractors in waste storage and disposal. Ensure that proper procedures are followed.
- Immediately repair all dikes and liners used for storage or containment.
- Recycle materials if appropriate.

INSPECTION AND MAINTENANCE:

- Ensure that all wastes are properly labeled and stored.
- Verify that all hazardous wastes are disposed of properly.
- Hazardous wastes must be collected, labeled, and disposed of at authorized disposal sites.
- Keep supplies on-site for cleanup of spills.
- Post MSDS sheets for all materials stored on-site.
- Immediately repair all dikes and liners used for storage or containment.

7.9 CONSTRUCTION AND DOMESTIC WASTE

DESCRIPTION

Building materials and other construction site wastes must be properly managed and disposed of to reduce the risk of pollution from materials such as surplus or refuse building materials or hazardous wastes. Practices such as trash disposal, recycling, proper material handling, and spill prevention and cleanup measures can reduce the potential for stormwater runoff to mobilize construction site wastes and contaminate surface or ground water.

APPLICABILITY

The proper management and disposal of wastes should be practiced at every construction site to reduce stormwater runoff. Use waste management practices to properly locate refuse piles, to cover materials that might be displaced by rainfall or stormwater runoff, and to prevent spills and leaks from hazardous materials that were improperly stored.

SITING AND DESIGN CONSIDERATIONS

Solid Wastes:

- Designate a waste collection area on the site that does not receive a substantial amount of runoff from upland areas and does not drain directly to a waterbody.
- Ensure that containers have lids so they can be covered before periods of rain, and keep containers in a covered area whenever possible.
- Schedule waste collection to prevent the containers from overfilling.

- Clean up spills immediately. For hazardous materials, follow cleanup instructions on the package. Use an absorbent material such as sawdust or kitty litter to contain the spill.
- During the demolition phase of construction, provide extra containers and schedule more frequent pickups.
- Collect, remove, and dispose of all construction site wastes at authorized disposal areas. Contact a local environmental agency to identify these disposal sites.

To ensure the proper disposal of contaminated soils that have been exposed to and still contain hazardous substances, consult with state or local solid waste regulatory agencies or private firms. Some landfills might accept contaminated soils, but they require laboratory tests first.

Paint and dirt are often removed from surfaces by sandblasting. Sandblasting grits are the byproducts of this procedure and consist of the sand used and the paint and dirt particles that are removed from the surface. These materials are considered hazardous if they are removed from older structures because they are more likely to contain lead-, cadmium-, or chrome-based paints. Ensure proper disposal of sandblasting grits by contracting with a licensed waste management or transport and disposal firm.

Detergents:

Phosphorous and nitrogen containing detergents are used in wash water for cleaning vehicles. Excesses of these nutrients can be a major source of water pollution. Use detergents only as recommended, and limit their use on the site. Do not dump wash water containing detergents into the storm drain system; direct it to a sanitary sewer or contain it so that it can be treated at a wastewater treatment plant.

LIMITATIONS

An effective waste management system requires training and signage to promote awareness of the hazards of improper storage, handling, and disposal of wastes. The only way to be sure that waste management practices are being followed is to be aware of worker habits and to inspect storage areas regularly. Extra management time may be required to ensure that all workers are following the proper procedures.

MAINTENANCE CONSIDERATIONS

Inspect storage and use areas and identify containers or equipment that could malfunction and cause leaks or spills. Check equipment and containers for leaks, corrosion, support or foundation failure, or other signs of deterioration, and test them for soundness. Immediately repair or replace any that are found to be defective.

7.10 SANITARY WASTE

OBJECTIVE:

To minimize or eliminate the discharge of sanitary wastes from construction sites to storm drains, gutters, watercourses, and drainage channels. These controls apply to construction sites that have portable or temporary sanitary waste systems.

INSTALLATION:

Limitations:

- To dispose of wastes to the sanitary sewer, the leasing company must be permitted.
- On-site disposal systems must comply with all local, and state regulations.
- Temporary connections to the sanitary sewer should meet codes and regulations.

Standards and Specifications:

- Locate toilets and disposal systems where accidental discharge cannot flow to storm drains, gutters, watercourses, and drainage channels.
- Anchor portable toilets so they do not overturn during high winds.
- All sanitary wastes shall eventually be discharged to a sanitary sewer.
- Employ licensed sanitary services to ensure facilities are in working order at all times.

INSPECTION AND MAINTENANCE:

- Monitor employees and subcontractors to ensure that proper practices are being implemented.
- Sanitary storage and disposal should be inspected at least once per week. Units should be properly maintained, repaired, or replaced.

7.11 FERTILIZERS

Fertilizer is not planned for use on the project.

7.12 OTHER POLLUTION PREVENTION PRACTICES

Unique activities requiring pollution prevention practices do not exist on this project.

8 INSPECTION AND CORRECTIVE ACTION

8.1 INSPECTION PERSONNEL AND PROCEDURES

Successful SWPPP compliance includes regular BMP control inspections, preventive maintenance, and SWPPP plan review. These inspections will help to uncover conditions that might lead to a release of discharges and non-compliance violations. Planned maintenance should prevent discharges and violations. Revisions to the plan ensure it is viable and effective for the life of the project. The following activities and supporting procedures will be included in the preventive maintenance program.

8.2 GENERAL SITE AWARENESS

The Operator shall continuously (during scheduled and unscheduled specific site visits) monitor the implemented erosion and sediment control measures during site specific (and project) construction activities to ensure the effectiveness and operation condition of the measures. If changes or repairs are needed to improve the effectiveness and operation of a sediment control measure they will be implemented as soon as practicable and in no case greater than seven (7) days after the discovery of the needed corrective action.

8.3 SPECIFIC COMPLIANCE INSPECTION

The Operator or his designee' (qualified personnel) will inspect disturbed areas and structures for erosion and sediment control effectiveness and for the potential of pollutants entering the drainage system. All erosion and sediment control measures not including final stabilization will be inspected and observed to ensure proper operation. Discharge locations will be inspected to assure effectiveness. Inspections will document effectiveness of measures and potential impacts to receiving waters.

All erosion and sediment control structures, measure and practice locations, and site vehicle access (enter and exit) points will be inspected either weekly – removing the rain event requirement - or every fourteen (14) days and within 24 hours after a storm water event of 0.25 inches or greater. Inspectors will review all BMP'S installed onsite and listed in the current plan.

Inspectors will document BMP performance and recommend corrective measures be implemented ONLY for listed BMP'S requiring maintenance or in a failed condition. BMP'S exhibiting acceptable performance (BMP'S that do not require maintenance or are not in a failed (upset) condition) will not be specifically listed in the inspection report and will be considered compliant with the CGP and specific SWPPP documents. Inspectors will document sediment accumulation and if necessary recommend that corrective measures be implemented immediately. Also, if emergency repairs and measures are needed after a significant rainfall (greater than 0.25 inches), such measures and repairs will be performed and completed immediately, and before the next significant rainfall event (if weather, supplies/materials and site conditions will permit).

Final stabilized areas and sites will be inspected every fourteen - days per the NPDES requirements effective with the project start date until the "NOT" is submitted. Inspectors will ensure control measures are maintained in good operating condition. The inspector will sign the inspection report and must comply with the signatory requirements set forth in the General Construction Permit (GCP). All NPDES documents associated with this project will be kept for three years after the date on the Notice of Termination ("NOT").

8.4 RAIN GAUGE LOCATION

A rain gauge is located on the posting board for the project.

8.5 PERSONNEL RESPONSIBLE FOR INSPECTIONS

INSPECTOR NAME	CERTIFICATIONS	COMPANY
Kelley V. Fetter	P.E., CISEC, CPSWQ, CPMSM	E2RC, LLC
Sydney E. Fetter	ACNM, CISEC	E2RC, LLC
Ryan Higdon	ACNM, CISEC	E2RC, LLC
Fidel Villalobos	ACNM	E2RC, LLC
Angie Baca	ACNM	E2RC, LLC
Pedro Calabaza	ACNM	E2RC, LLC
Kyle Houghton	StormwaterONE	E2RC, LLC
Diana Baltazar	StormwaterONE	E2RC, LLC
Ray Welton Jr.	Stormwaterone	E2RC, LLC

3/26/2020 rt

The supporting certification documentation for the E2RC personnel is available for review in the ***Authorization and Inspector Qualification*** section of the plan.

Note: All personnel conducting inspections must be considered a "qualified person." CGP Part 4.1 clarifies that a "qualified person" is a person knowledgeable in the principles and practices of erosion and sediment controls and pollution prevention, who possesses the skills to assess conditions at the construction site that could impact stormwater quality, and the skills to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of this permit.

E2RC encourages inspectors to be certified by StormwaterONE, Envirocert International or CISEC. Each of these providers has developed an instruction platform supported by an examination to ensure the inspector can perform inspections according to the listed requirements.

8.6 INSPECTION SCHEDULE

8.6.1 SPECIFIC INSPECTION FREQUENCY

Inspections will occur on a fourteen - day basis. Rain events at 0.25" will be inspected as they occur. Inspections will occur only during the project's normal working hours as described in Part 4.1.2.2 of the CGP. **If the site discharges to sediment or nutrient-impaired water or a 'Tier Designated' water the inspection frequency must occur according to a protocol (Part 4.3 of the CGP):**

- Once every 7 calendar days; and
- Within 24 hours of the occurrence of a storm event measuring 0.25" or greater

8.6.2 REDUCTION IN INSPECTION FREQUENCY

If a reduction in inspection frequency is required it must be documented in the SWPPP and comply with Part 4.4.1, 4.4.2, or 4.4.3 of the CGP.

8.7 INSPECTION REPORT FORMS

A copy of the inspection form is included in the Completed Inspection section of the plan. Complete inspection reports are available electronically. Double M. Properties may access complete inspection reports using their unique company account provided by E2RC, LLC. Double M. Properties also receives each report by email.

8.8 CORRECTIVE ACTION

Corrective actions for the site BMPS are noted on each inspection report, if they exist at the time of the inspection. Corrective Actions may also be identified by onsite personnel. Work to complete the corrective actions should be initiated 'immediately'. Immediately is defined by EPA as a requirement of operators to initiate all reasonable steps to minimize or prevent the discharge of pollutants until a permanent solution is installed and made operational. This includes cleaning up any contaminated surfaces to prevent discharges from subsequent events.

Conditions Triggering Corrective Action

1. CGP Part 5.1.1: A stormwater control needs repair or replacement (beyond routine maintenance required under Part 2.1.4 of the CGP); or
2. CGP Part 5.1.2: A stormwater control necessary to comply with the requirements of this permit was never installed, or was installed incorrectly; or
3. CGP Part 5.1.3: Your discharges are causing and exceedance of applicable water quality standards; or
4. CGP Part 5.1.4: A prohibited discharge has occurred under Part 1.3 of the CGP.

Corrective Action Deadlines

The EPA provides baseline deadlines to complete corrective activities, according to their severity and level of repair. However, it may occur that local or state agencies establish maintenance or corrective deadlines. In the event both exist and are applicable to a project, the more stringent requirement applies. For example, projects submitted to New Mexico Department of Transportation specifications must complete repairs within three (3) days of discovery.

For any corrective action triggering conditions in Part 5.1 of the CGP, the Operator(s) must:

- Part 5.2.1: Immediately take all reasonable steps to address the condition, including cleaning up any contaminated surfaces so the material will not discharge in subsequent storm events;
- Part 5.2.2: When the problem does not require a new or replacement control or significant repair, the corrective action must be completed by the close of the next business day;
- Part 5.2.3: When the problem requires a new or replacement control or significant repair, install the new or modified control and make it operational, or complete the repair, by no later than seven (7) calendar days from the time of discovery. If it is infeasible to complete the installation or repair within seven (7) calendar days, you must document in your records why it is infeasible to complete the installation or repair within the 7-day timeframe and document your schedule for installing the stormwater control(s) and making it operational as soon as feasible after the 7-day timeframe. Where these actions result in changes to any of the stormwater controls or procedures documented in your SWPPP, you must modify your SWPPP accordingly within seven (7) calendar days of completing this work.

8.8.1 CORRECTIVE ACTION LOG

The EPA requires the Permittees complete a Corrective Action Report or log. **A log is included in the Site Housekeeping section of this plan.** The Operator(s) will utilize the Inspection Report to identify the areas where corrective actions are required. The Inspection Report will list the conditions of the site, nature of the conditions identified for correction and the date and time of the identification.

Corrective Action Reports

For each corrective action taken in accordance with Part 5.1, you must complete a report in accordance with the following:

- Part 5.4.1: Within 24 hours of identifying the corrective action condition, document the specific condition and the date and time it was identified.
- Part 5.4.2: Within 24 hours of completing the corrective action (in accordance with the deadlines in Part 5.2), document the actions taken to address the condition, including whether any SWPPP modifications are required.

- Part 5.4.3: Each corrective action report must be signed in accordance with Appendix I, Part I.11 of this permit.
- Part 5.4.4: You must keep a copy of all corrective action reports at the site or at an easily accessible location, so that it can be made available at the time of an on-site inspection or upon request by EPA.
- Part 5.4.5: You must retain all corrective action reports completed for this Part for at least three (3) years from the date that your permit coverage expires or is terminated.

8.8.2 PERSONNEL RESPONSIBLE FOR CORRECTIVE ACTIONS

Bob Prewitt is the person responsible for coordinating corrective action activities.

9 STAFF TRAINING REQUIREMENTS

Each operator, or group of multiple operators, must assemble a "stormwater team" to carry out compliance activities associated with the requirements in this permit.

Prior to the commencement of construction activities, you must ensure that the following personnel on the stormwater team understand the requirements of this permit and their specific responsibilities with respect to those requirements:

- Personnel who are responsible for the design, installation, maintenance, and/or repair of stormwater controls (including pollution prevention controls);
- Personnel responsible for the application and storage of treatment chemicals (if applicable);
- Personnel who are responsible for conducting inspections as required in Part 4.1; and
- Personnel who are responsible for taking corrective actions as required in Part 5.

You are responsible for ensuring that all activities on the site comply with the requirements of this permit. You are not required to provide or document formal training for subcontractors or other outside service providers, but you must ensure that such personnel understand any requirements of this permit that may be affected by the work they are subcontracted to perform.

10 DELEGATION OF AUTHORITY

The EPA accepted delegation of authority letter(s) is included in the ***Delegation of Authority*** section of the plan.